

REMARKS/ARGUMENTS

Responsive to the Non-Final Office Action mailed October 2, 2006, Applicants provide the following remarks. Reconsideration and allowance of the subject application, as amended, are respectfully requested. All objections and rejections are respectfully traversed.

Claim Amendments

Claims 10, 14 and 25 have been amended to more particularly define “new diagnostic knowledge” and to more particularly claim distributed alarm correlation using “new diagnostic knowledge.” Claims 3-6, 8-9 have been amended to depend from claim 10 and for consistency with the amendments to claim 10. Claims 11 and 12 have been amended for consistency with the amendments to claim 10, and claim 17 has been amended to depend directly from claim 14. New claim 27 has been added, and claims 1-2, 7, 16, 21-24 and 26 have been cancelled without prejudice.

Support for the amendments to the claims may be found throughout the specification, for example, in FIGS. 5 and 7, at page 10, line 16 to page 11, line 24, and in original claims 11, 12 and 21-22. No new matter has been added.

35 USC §101

The Examiner has rejected claims 24-26 under 35 USC §101 as being directed to non-statutory subject-matter. Applicants disagree with the Examiner’s analysis of the claims under 35 USC §101. To expedite prosecution, however, Applicants have amended claim 25 as suggested by the Examiner. Claims 24 and 26 have been cancelled without prejudice. Applicants respectfully request, therefore, that the rejection of claims 24-26 as being non-statutory be withdrawn upon reconsideration.

35 USC §102

The Examiner has rejected claims 1-2, 6-7, 9, 14, 23 and 24 under 35 USC §102(a) as being anticipated by Kakadia (U.S. Patent No. 6,532,554, hereinafter “Kakadia”). Applicants respectfully traverse this rejection.

Claims 1-2, 7 and 23-24 have been cancelled without prejudice rendering the rejection thereof moot. Claims 6 and 9 have been amended to depend from claim 10, which has not been rejected as being anticipated by Kakadia.

Independent claim 14 has been amended to more particularly claim the combination of (1) hierarchical distributed alarm correlation and (2) sharing of new diagnostic knowledge generated/learned by users using correlation results generated at the respective nodes. This combination provides significant advantages in distributed fault diagnosis, as described in the specification, e.g. at page 12, lines 18-23:

Accordingly, a system and method for diagnosing faults, consistent with the present invention, provides a mechanism to leverage and share local field personnel's intimate knowledge of the cable station layout and equipment. This knowledge can then be used to diagnose higher-level abstracted problems, for example, at the network level. Thus, learned scenarios become shared knowledge by dynamically distributing them to other nodes and to the NMC.

Applicants find nothing in Kakadia that teaches this claimed combination or the attendant advantages.

Kakadia teaches a network event correlation system using formally specified models of protocol behavior. See e.g. abstract of Kakadia. However, applicants find nothing in Kakadia that teaches or suggests a distributed alarm correlation system including a plurality of node-level alarm correlation tools configured “to produce node-level correlation results identifying a root cause of a fault determined at an associated one of said nodes and to share new diagnostic knowledge produced by a user of said node-level alarm correlation tool using said node-level correlation results with other of said node-level alarm correlation tools at other nodes”; and at least one higher-level management level alarm correlation tool, “wherein each of said node-level alarm correlation tools is configured to share said new diagnostic knowledge and said node-level correlation results with said higher-level management level alarm correlation tool”, and wherein said higher-level management level alarm correlation tool is configured to “provide higher-level alarm correlation to produce higher-level correlation results identifying a higher-level root cause”, as required by amended independent claim 14. In fact, the Examiner has not cited Kakadia as providing these teachings, and has appears to recognize that Kakadia fails to teach or

suggest the addition of new diagnostic knowledge produced by a user to respective network nodes. Page 10 of the Official Action of October 2, 2006, lines 14-17.

Since Kakadia fails to teach every limitation of independent claim 14, as amended, Applicants respectfully submit that the rejection of claim 14 as being anticipated by Kakadia cannot stand. Claims 1-2, 7 and 23-24 have been cancelled without prejudice rendering the rejection thereof moot. Claims 6 and 9 have been amended to depend from claim 10, which has not been rejected as being anticipated by Kakadia. Applicants respectfully submit, therefore, that the rejection of claims 1-2, 6-7, 9, 14, 23 and 24 under 35 USC § 102(a) as being anticipated by Kakadia should be withdrawn upon reconsideration.

35 USC §103

Claims 3-5, 8 10-13, 15-22, 25 and 26 have been rejected under 35 USC §103(a) as being unpatentable over Kakadia in further view of Valadarsky et al. (U.S. Patent No. 7,043,661, hereinafter “Valadarsky”). Applicants respectfully traverse this rejection.

As discussed above, and as apparently recognized by the Examiner, Kakadia does not teach or suggest the combination of (1) hierarchical distributed alarm correlation and (2) sharing of new diagnostic knowledge generated/learned by users using correlation results generated at the respective nodes. Applicants find nothing in Kakadia that teaches or suggests “adding new diagnostic knowledge provided by at least one of said users to one of said node-level knowledge bases, said new diagnostic knowledge being obtained by said at least one of said users using said correlation results associated with at least one of said network nodes”, “replicating said new diagnostic knowledge to at least one other node-level knowledge base associated with at least one other said network node”, “reporting said new diagnostic knowledge and said correlation results produced locally at said network nodes to a higher-level alarm correlator”, and “correlating said root causes determined at said network nodes using said higher-level alarm correlator to find a higher-level root cause”, as required by amended independent claims 10 and 25. Kakadia also fails to teach or suggest all of the limitations of independent claim 14, as discussed above.

Valadarsky does not provide the missing teachings. Valadarsky is cited by the Examiner, with reference to column 8, lines 53-67 thereof, as teaching that a user can add, remove, modify, enable, disable or activate a rule. Applicants find nothing in Valadarsky, however, that teaches or suggests the combination of “adding” and “replicating” “new diagnostic knowledge” to “node-level knowledge base[s]”, “reporting” the “new diagnostic knowledge” and “correlation results” to a “higher-level alarm correlator”, and “correlating” root causes determined at the network nodes to find a “higher-level root cause”, as set forth in amended claims 10 and 25. Applicants also find nothing in Valadarsky that teaches or suggests a distributed alarm correlation system including a plurality of node-level alarm correlation tools configured “to produce node-level correlation results identifying a root cause of a fault determined at an associated one of said nodes and to share new diagnostic knowledge produced by a user of said node-level alarm correlation tool using said node-level correlation results with other of said node-level alarm correlation tools at other nodes”; and at least one higher-level management level alarm correlation tool, “wherein each of said node-level alarm correlation tools is configured to share said new diagnostic knowledge and said node-level correlation results with said higher-level management level alarm correlation tool”, and wherein said higher-level management level alarm correlation tool is configured to “provide higher-level alarm correlation to produce higher-level correlation results identifying a higher-level root cause”, as required by amended independent claim 14.

The specification describes significant advantages to the inventions claimed in independent claims 10, 14 and 25, and Kakadia and Valadarsky do not alone, or in any combination, suggest the claimed configurations or the attendant advantages. As such, Applicants submit that independent claims 10, 14 and 25, as amended, could not have been obvious over Kakadia combined with Valadarsky at the time the invention was made. Claims 3-5, 8, 11-13, 15, and 17-20 depend from claims 1 or 14 and are allowable by virtue of their dependency as well as for their own limitations. Claims 16, 21-22 and 26 have been cancelled without prejudice, rendering the rejection thereof moot. Applicants respectfully request, therefore, that the rejection of claims 3-5, 8 10-13, 15-22, 25 and 26 under 35 USC §103(a) as

being unpatentable over Kakadia in further view of Valadarsky be withdrawn upon reconsideration.

In light of the foregoing remarks, it is believed that all of the presently pending claims are in a condition for allowance. Allowance of the application is respectfully requested. In the event the Examiner deems personal contact desirable in disposition of this application, the Examiner is respectfully requested to call the undersigned attorney at (603) 668-6560.

No fees are believed to be due. In the event there are any fee deficiencies, please charge them (or credit any overpayment) to our Deposit Account No. 50-2121.

Respectfully submitted,

/Donald J. Perreault/
Donald J. Perreault, Registration No. 40,126
Attorney for Applicants
GROSSMAN, TUCKER, PERREAULT
& PFLEGER, PLLC
55 South Commercial Street
Manchester, NH 03101
Ph: 603-668-6560
Fx: 603-668-2970